



intecs *informatica e tecnologia del software*
Brainware Company

Document Id: ERG-GEON-4100-INT

Issue: 1-30/04/2009

Revision: 1-10/06/2009

EbRim implementation with GeoNetwork and Omar

GEONETWORK OPENSOURCE SOFTWARE Acceptance Test Plan

Authors:

M. Barone

10/06/09

Reviewed by:

P. Nencioni

10/06/09

Approved by:

S. Gianfranceschi

10/06/09



Document change record

Issue	Issue date	Pages/section effected	Reason for change
1.0	30/04/2009	All	Draft version
1.1	10/06/2009	All	Implemented CDR RIDS/Comments

Distribution List

<i>Company</i>	<i>Name</i>	<i>Function</i>	<i>N° of copies</i>
ESA	P.G. Marchetti	ESA Technical Officer	1
Intecs	S. Gianfranceschi	ERGO Project Manager	1
4CT	J. Vanbockryck	4CT Project Manager	1
GeoCat B.V.	J .Ticheler	GeoCat B.V. Project Manager	1



Table of Content

1. INTRODUCTION	7
1.1. PURPOSE	7
1.2. GLOSSARY	7
1.2.1. ABBREVIATIONS	7
1.2.2. DEFINITION OF TERMS	9
1.3. REFERENCES	9
1.3.1. NORMATIVE REFERENCES	9
1.3.2. INFORMATIVE REFERENCES	10
2. ORGANISATION OF TEST ACTIVITIES	11
2.1. FACTORY ACCEPTANCE ACTIVITIES	11
2.1.1. ACTIVITY DEFINITION	11
2.1.2. DESCRIPTION OF A FACTORY ACCEPTANCE SESSION	11
2.1.3. VERIFICATION METHOD	11
2.1.4. ACTIVITY RESULTS	12
3. TEST ENVIRONMENT	13
3.1. HARDWARE & SOFTWARE CONFIGURATION	13
3.2. TEST TOOLS	14
3.2.1. STEPS TO EXECUTE A TEST SESSION	14
3.2.2. GENERAL STRUCTURE OF A CTL TEST SUITE	16
3.3. TEST DATA	16
4. TEST SPECIFICATION	17
4.1. TEST DESIGN TD_01: CSW-EBRIM SUBSET	17
4.1.1. TEST CASE TC_01_01: GETCAPABILITES	18
4.1.2. TEST CASE TC_01_02: DESCRIBERECORD	18
4.1.3. TEST CASE TC_01_03: GETRECORDBYID	19



4.1.4.	TEST CASE TC_01_04: GETREPOSITORYITEM	19
4.1.5.	TEST CASE TC_01_05: GETRECORDS	19
4.2.	TEST DESIGN TD_02: CSW-EBRIM CIM PROFILE	21
4.2.1.	TEST CASE TC_02_01: THE CORE CAPABILITIES	21
4.2.2.	TEST CASE TC_02_02: THE ADDITIONAL QUERYABLES	22
4.2.3.	TEST CASE TC_02_03: THE ADDITIONAL RESOURCES	22
4.3.	TEST DESIGN TD_03: PERFORMANCE	22
4.3.1.	TEST CASE TC_03_01: INGESTION OF 20.000 RECORDS IN DB	23
4.3.2.	TEST CASE TC_03_02: NUMBER OF RECORDS RETURNED BY GETRECORDS	23
4.3.3.	TEST CASE TC_03_03: MAXIMUM RESPONSE TIME FOR GETRECORDS	24
4.4.	TEST DESIGN TD_04: SECURITY	25
4.4.1.	TEST CASE TC_04_01: UNAUTHORIZED ACCESS	26
5.	<u>TRACEABILITY MATRICES</u>	27
6.	<u>ANNEX A: ETS</u>	30

TABLE OF FIGURES

Figure 3-1 HW and SW configuration for ERGO GeoNetwork Test Environment	14
Figure 3-2 TEAM Engine Screenshot of the "start session" page	15

1. INTRODUCTION

1.1. Purpose

This document is the Acceptance Test Plan (ATP) for the ERGO GeoNetwork Catalogue Service, and represents a formal deliverable of work package 4100.

The objectives of this plan are to:

- Define the validation approach;
- Describe the activities needed for the preparation and execution of testing;
- Define the testing environment;
- Define the sequence of the validation/acceptance tests;
- Serve as a guide in the definition of the test procedures.

1.2. Glossary

1.2.1. Abbreviations

<i>Acronym</i>	<i>Extended Form</i>
ATC	Abstract Test Case
ATP	Acceptance Test Plan
ATS	Abstract Test Suite
ATR	Acceptance Test Report
EO	Earth Observation
ETS	Executable Test Suite
FAT	Factory Acceptance Test
GMES	Global Monitoring for Environment and Security
GUI	Graphical User Interface
HMA	Heterogeneous Mission Accessibility
HTTP	Hypertext Transfer Protocol



<i>Acronym</i>	<i>Extended Form</i>
HW	Hardware
I/F	Interface
ICD	Interface Control Document
IUT	Implementation under test
NA	Not Applicable
OGC	Open Geospatial Consortium
SOAP	Simple Object Access Protocol
SR	Software Requirements
SRD	Software Requirements Document
SSD	Software Specification Document
SSE	Service Support Environment
SSL	Secure Sockets Layer
SUM	Software User Manual
SW	Software
TBC	To Be Confirmed
TBD	To Be Defined
TBW	To Be Written
TEAM	Test, Evaluation and Measurement Engine
TN	Technical Note
UML	Unified Modeling Language
URD	User Requirements Document

<i>Acronym</i>	<i>Extended Form</i>
URL	Universal Resource Locator
WSDL	Web Services Description/Definition Language
XML	Extensible Mark-up Language
XSD	XML Schema Definition
XSLT	Extensible Style Language Transformation

1.2.2. Definition of Terms

1.3. References

1.3.1. Normative References

In case of conflict between two or more applicable documents, the higher document will prevail.

- [NR1] ERGO-TEC-PROP-354-07-SP-PI, issue 1.0, 05/02/2008.
- [NR2] ERGO Geonetwork Opensource Software Requirement Document, Id: ERG-SRD-2100-GCT, issue 1.1, 06/06/2008.
- [NR3] ERGO Project Management Plan, Id: ERG-PMP-1000-INT, Issue 1, Revision 1, date 30/04/2009
- [NR4] ERGO Project Assurance Plan, Id: ERGO-PAP-1000-INT, Issue 1, Revision 0, date 05/05/2008
- [NR5] OGC Compliance Test Language (CTL), Id: OGC 06-126r2, version 0.6, 31/03/2009
- [NR6] CSW-ebRIM Registry Service - Part 3: Abstract Test Suite, Id: OGC 08-103r2, issue 1.0.1, 07/11/2008.
- [NR7] ISO 19115:2003, Geographic Information - Metadata
- [NR8] ISO 19115:2003/Cor 1 2006, Geographic information - Metadata - Corrigendum 1
- [NR9] ISO/TS 19139:2007, Geographic information -- Metadata -- XML schema implementation

- [NR10] OGC™ Cataloguing of ISO Metadata (CIM) using the ebRIM profile of CS-W, Id: OGC 07-038r3, version 0.1.10, 02/06/2009
- [NR11] ebXML Registry Information Model, version 3.0, Id: regrep-rim-3.0-os, 02/05/2005.
- [NR12] ebXML Registry Services and Protocols, version 3.0, Id: regrep-rs-3.0-os, 02/05/2005.

1.3.2. Informative references

The following documents, although not a part of this test procedure, amplify or clarify its contents.

- [IR1] SOAP Simple Object Access Protocol 1.1, W3C Note 08 May 2000, <http://www.w3.org/TR/2000/NOTE-SOAP-20000508/>
- [IR2] SOAP Simple Object Access Protocol 1.2, Part 1 (Messaging Framework) <http://www.w3.org/TR/soap12-part1/>
- [IR3] SOAP Simple Object Access Protocol 1.2, Part 2 (Adjuncts) <http://www.w3.org/TR/soap12-part2/>
- [IR4] Hypertext Transfer Protocol -- HTTP/1.1, RFC 2616, U.C. Irvine, DEC W3C/MIT, DEC, W3C/MIT, W3C/MIT, January 1997, <http://www.normos.org/ietf/rfc/rfc2616.txt>
- [IR5] Web Services Description Language (WSDL) 1.1, W3C Note 15 March 2001, <http://www.w3.org/TR/wsdl>
- [IR6] XML Schema, <http://www.w3.org/TR/xmlschema-0/>, W3C Recommendation, 2 May 2001.
- [IR7] Extensible Mark-up Language (XML) 1.0, W3C Recommendation 10 February 1998, <http://www.w3.org/TR/REC-xml>.
- [IR8] XSL Transformations (XSLT) Version 1.0, W3C Recommendation 16 November 1999, <http://www.w3.org/TR/xslt>.
- [IR9] XSL Transformations (XSLT) Version 2.0, W3C Recommendation 23 January 2007, <http://www.w3.org/TR/xslt20/>

2. ORGANISATION OF TEST ACTIVITIES

This document defines the acceptance test plan for ERGO GeoNetwork software. The validation consists of Factory Acceptance (i.e. verification against software requirements) activities, as described in the following section.

2.1. Factory Acceptance Activities

2.1.1. Activity Definition

The objective of the Factory Acceptance Test is to check that ERGO GeoNetwork software satisfies all the requirements listed in the Software Requirement Document [NR2].

The FAT tests are run at INTECS premises. The following tasks are part of the factory acceptance:

- Installation of ERGO GeoNetwork software
- Execution of the formal acceptance tests
- Writing of the test execution report

2.1.2. Description of a Factory Acceptance Session

The Factory Acceptance Test session starts with the verification of the testing environment and the presence of all required people. During this "Test Readiness Review", it will be checked whether the software is ready to be submitted to the factory acceptance tests (e.g. open actions, open change requests, and state of documentation).

The next activity is the execution of the formal factory acceptance. If a difference is detected between the observed behavior of the software and the expected behavior described in the Test Procedures, then the test engineer raises a problem report. In case a blocking problem is encountered, the test case is skipped and testing continues with the next test case.

Finally at the end of the session, a Factory Acceptance Test Report is written. Depending on the number of major problems that are detected, a retest of some test cases may be appended to the testing activities, if a new release with a number of corrections is available.

2.1.3. Verification Method

The following verification methods are envisaged for test execution:

- **Analysis [A]** This verification method implies use of analytical techniques (such as system engineering analysis, statistics, mathematical modeling, simulations).

- **Review of Design [D]** This verification method may be used when approved design reports, technical descriptions, engineering drawings unambiguously show that the requirement is met.
- **Inspection [I]** Verification by inspection is only done when testing is insufficient or inappropriate. This method of verification is for those requirements that are normally performed by some form of visual inspection. This would include workmanship, labeling, envelope requirements etc.
- **Demonstration [M]** This verification method may be used when actual conduct can verify achievement of requirements such as service and access, transportability, human engineering features and processes hardware. A requirement which is of an operational or functional nature and is not quantified by a specific measurable parameter may be verified by demonstration.
- **Similarity [S]** This verification method may be used when there is proof that the item is similar or identical in design and manufacturing processes to another previously qualified to equivalent or more stringent criterion.
- **Test [T]** A requirement may be verified by test alone if the form of the specification is such that the requirement can be directly measured.

2.1.4. Activity Results

The outputs of the Acceptance Test phase is a signed Acceptance Test Report (ATR) which lists for each test design/test case whether it failed or was successful, and a general acceptance statement.

Three cases are possible:

- **Rejection:** the reasons are written in the report; the software is corrected according to the normal change control and configuration management procedures; a new factory acceptance test session is scheduled;
- **Conditional acceptance:** some problems have been found, but the factory acceptance is signed providing that they will be corrected.
- **Full acceptance:** the factory acceptance is signed.

3. Test Environment

In this chapter the software and hardware resources required to perform the Factory Acceptance Test sessions are listed.

3.1. Hardware & software Configuration

The test environment is made up of the HW/SW configurations for the GeoNetwork and **TEAM Engine** systems.

The HW/SW configuration for GeoNetwork is the following:

Host	Hardware	Software
PC1	Dual CPU AMD Opteron 246 (detected 1992.536 MHz processor), 4 GB of RAM	Linux (Fedora Core 9) or Windows XP Apache Tomcat (version 5.5 or greater) Java Runtime Environment (version 1.5 or greater) Postgres (version 8.3 or greater) with PostGIS extension GeoNetwork software

The HW/SW configuration for the **TEAM Engine** is as follows:

Host	Hardware	Software
PC2	I586 Intel processor + 2GB RAM	Windows XP Apache Tomcat (version 5.5 or greater) Java Runtime Environment (version 1.6.x) Firefox 3.0.x TEAM Engine tool software

A network connection is required between the 2 PCs, as shown in the following figure:

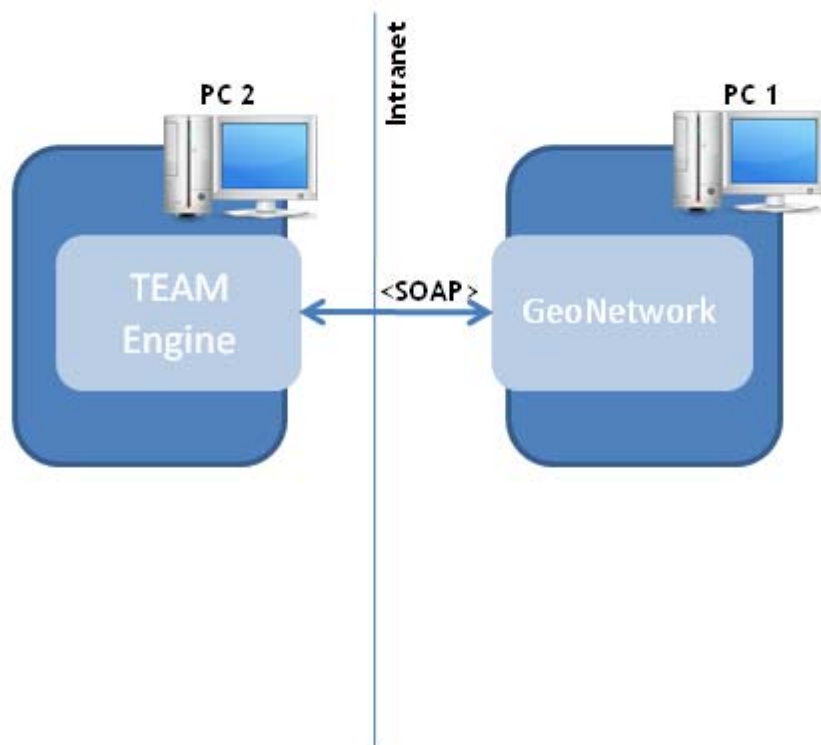


Figure 3-1 HW and SW configuration for ERGO GeoNetwork Test Environment

3.2. Test tools

The Test tool used for the tests described in this document is the **TEAM Engine**, able to execute tests written in the CTL language [NR3]. The **TEAM Engine** is implemented as a WEB application running as a Tomcat service, able to execute test sessions, where each test session consists in launching an ETS script written in the CTL language.

3.2.1. Steps to execute a test session

The **TEAM Engine** tool can be used only by registered users; in order to access its functionalities, indeed, the user shall log in with the credentials provided at registration time; in detail:

- the first time the user accesses the **TEAM Engine**, he/she shall undergo a registration process, which simply requires the user to submit a username, a password and optionally, an e-mail address; the steps to execute for the registration are clearly indicated on the **TEAM Engine** GUI;

- once registered, the user will be able to access the TEAM Engine functionalities by providing the username and password chosen at registration time.

Once logged in, the user can create a new test session; as shown in the following screenshot of the TEAM Engine GUI, the user can choose among a series of pre-loaded test suites, internally packaged as CTL files.

Currently, the TEAM Engine makes it available to execute:

- the compliance test suite for the EO Profile of CSW-ebRIM [OGC 06-131] revision r6;
- the compliance test suite for the CIM Profile of CSW-ebRIM [OGC 07-038] revision r2;



TEAM Engine
(Test, Evaluation, And Measurement Engine)

Select test suite:

Organization	Standard	Version	Test Suite Rev
Intecs	CSW-ebRIM-EO_Profile-06-131	r4	A

Select Profile(s):

CSW ebRIM extension package for Earth Observation Products compliance test suite

Enter Session Description (Optional):

Figure 3-2 TEAM Engine Screenshot of the “start session” page

In order to execute the compliance tests, the TEAM Engine requires the user to provide some input parameters:

- the SOAP endpoint of the web service to be tested (IUT);
- the HTTP endpoint of the IUT;
- the identifier of an Extrinsic Object of type “ISO Metadata” previously submitted to the IUT.

The results of the execution of the compliance test suite are shown in the Team Engine GUI: the complete tree structure of the suite is provided with each test result displayed as “passed” or “failed”

3.2.2. General structure of a CTL Test Suite

A CTL test suite is made up of one or several tests, where each test has the main following instructions:

1. Definition of the type (XML or SOAP) of the request;
2. Definition of the mandatory (URL of the ERGO GeoNetwork Catalogue Service) and optional parameters of the request; some of these parameters shall be provided by the user through the TEAM Engine GUI;
3. Inclusion of either directly the request or the link to the request, if this is provided in a separate file, as usually happens;
4. Check that a response is returned by the ERGO GeoNetwork Catalogue Service;
5. Check that the response is compliant with what expected.

3.3. Test data

The GeoNetwork database shall be populated by ingesting:

- ISO 19115 Metadata, compliant with [NR9], in order to test the support of the CSW-ebRIM profile [NR10]

The ISO 19115 Metadata are of many different types:

- ESA EO dataset collections;
- Report - FAST Crop Yield Forecast from several African countries;
- Vegetation Productivity Indicator (VPI);
- Physiographic Map of North and Central Eurasia;
- Hydrological basins in Africa.

4. Test Specification

The testing is divided into **Test Designs**.

Test Designs are group of tests, which have a common theme or objective (e.g. Installation, communication mechanism used etc). Each test design is divided into a number of sub-cases. Each sub-case is a **Test Case**.

Test Cases are made up of one to several **Test Procedures**; a procedure maps an atomic unit of test.

This ATP defines the following Test Designs:

- A Test Design [named 'CSW-ebRIM subset'] covering the applicable CSW-ebRIM interface specification and is made up of a selected basic set of the CSW-ebRIM ATS;
- A Test Design [named 'CSW-ebRIM CIM Profile'] covering the ATS of the CSW-ebRIM CIM profile[OGC 07-038r3], contained in the Annex A of the associated doc;
- A Test Design [named 'Performance'] which groups all of tests related to performance issues
- A Test Design [named 'Security'], which comprises tests covering security issues.

Notice that, whereas for the first two Test Designs, the Test Cases rely on the Abstract Test Cases of the corresponding ATS suite, and then are completely described in those ATS, this does not happen for the other Test Designs listed. Consequently, for the Test Designs which do not refer to external ATS, a complete description of their component Test Cases is given.

4.1. Test Design TD_01: CSW-ebRIM subset

This Test Design is made up of a subset of the CSW-ebRIM abstract test cases contained in the Abstract Test Suite definition [OGC 08-103r2]; the selected abstract test cases are those applicable for the GeoNetwork specification, meaning that they cover requirements of the GeoNetwork specification.

The Test Design is divided into several Test Cases, one for each operation of the CSW-ebRIM interface.

The ETS corresponding to this design is structured as follows:

- a main "ats_wrs" ctl file defines the test suite and calls all of the tests of the test suite; it includes two CTL files; one contains tests for generic support of all the required CSW-ebRIM interface operations (GetCapabilities, DescribeRecord, GetRecordById, GetRepositoryItem, GetRecords), the other contains specific tests for the GetRecords operation;

- each test is called with a fully qualified name, where the prefix is associated to the namespace '<http://www.opengis.net/cat/wrs/1.0>' and the local name is of the form execute-ATC_index (index refer to the numbering of ATC in the CSW-ebRIM ATS)

4.1.1. Test Case TC_01_01: GetCapabilites

This test case groups the applicable CSW-ebRIM Abstract Test Cases concerning the 'GetCapabilities' request and response.

Note: in the CSW-ebRIM [OGC 07-110] specification, for the 'GetCapabilities' request, the http GET method binding is requested. However, given the requirements and scope of the ERGO project, the GetCapabilities is tested with SOAP binding.

Features Tested	The GetCapabilities request with SOAP [v1.1.] binding is supported; The response is schema-valid
CSW-ebRIM ATS References	ATC 33: GetCapabilities - Complete [with SOAP 1.1 binding instead of HTTP GET method] ATC 35: GetCapabilities - Response
ETS References	ctl:test name="wrs:execute-ATC-33_35"

4.1.2. Test Case TC_01_02: DescribeRecord

This test case groups the applicable CSW-ebRIM Abstract Test Cases concerning the 'DescribeRecord' request and response.

Features Tested	The DescribeRecord request with SOAP [v1.1.] binding is supported; The response is schema-valid
CSW-ebRIM ATS References	ATC 36: DescribeRecord - POST Method [with SOAP 1.1 binding] ATC 40: DescribeRecord - Response
ETS References	ctl:test name="wrs:execute-ATC-36_40"

4.1.3. Test Case TC_01_03: GetRecordById

This test case only maps the CSW-ebRIM Abstract Test Case checking the correctness of the GetRecordById Response. Notice that the CSW-ebRIM ATS comprises a test case about the support of the GetRecordById request, but this explicitly checks the support of http GET method [see ATC 41], whereas we are interested in testing the SOAP binding.

Features Tested	The GetRecordById request with SOAP [v1.1.] binding is supported; The response is schema-valid
CSW-ebRIM ATS References	ATC 43: GetRecordById - Response
ETS References	ctl:test name="wrs:execute-ATC-43"

4.1.4. Test Case TC_01_04: GetRepositoryItem

Tested in Test Design 'CSW-ebRIM CIM Profile' [ref. TC_02_01 - A.1.3]

4.1.5. Test Case TC_01_05: GetRecords

This test case groups all of the abstract test case of the CSW-ebRIM ATS related to the "GetRecords" operation, covering requirements of the GeoNetwork software

Features Tested	The GetRecords request with SOAP [v1.1.] binding is supported; The response is schema-valid
CSW-ebRIM ATS References	ATC 49: GetRecords - POST Method ATC 59: GetRecords - Response
ETS References	ctl:test name="wrs:execute-ATC-49_59"

Features Tested	The GetRecords request with XPath expressions is supported; properties of ebRIM registry objects correctly mapped
CSW-ebRIM ATS References	ATC 29: OGC filter predicates - XPath expressions
ETS References	ctl:test name="wrs:execute-ATC-29.x", where x=1 through n.

Features Tested	The GetRecords request with logical predicates is supported
CSW-ebRIM ATS References	ATC 55: GetRecords - Logical predicates
ETS References	ctl:test name="wrs:execute-ATC-55"

Features Tested	The GetRecords request with comparison predicates is supported
CSW-ebRIM ATS References	ATC 56: GetRecords - Comparison predicates
ETS References	ctl:test name="wrs:execute-ATC-56"

Features Tested	The GetRecords request with spatial predicates is supported
CSW-ebRIM ATS References	ATC 57: GetRecords - Spatial predicates
ETS References	ctl:test name="wrs:execute-ATC-57"

4.2. Test Design TD_02: CSW-ebRIM CIM Profile

This test design covers the applicable Abstract Test Cases of the CIM profile, as defined in Annex A of OGC 07-038r3. For the sake of simplicity, we groups the ATC in higher-level Test Cases, corresponding to the CIM ATS Test Classes

4.2.1. Test Case TC_02_01: The Core capabilities

This test case groups all of the CSW-ebRIM CIM Abstract Test Case belonging to the Annex A.1 section [A.1.1 through A.1.9]. Notice that

- The Abstract Test Case A.1.2, about the support of the SOAP v1.1 binding, is not considered since implicitly tested in the other Abstract Test Cases (all the POST requests are sent through SOAP v1.1).
- The Abstract Test case A.1.7, about the Harvest operation, is skipped, since the Harvest operation is not required for GeoNetwork.

Features Tested	The Core CIM capabilities are supported
CIM profile ATS References	A.1.x, with x=1 through 9, except for 2 and 7 [see introduction of the current section]
ETS References	ctl:test name="ebrimcim:execute-A.1.x", with x=1 through 9, except for 2 and 7 where A.1.x is the corresponding abstract test case [there is a correspondence 1:1 between abstract test cases and test procedures of the CTL suite]

4.2.2. Test Case TC_02_02: The additional queryables

This test case groups all of the CSW-ebRIM CIM Abstract Test Cases belonging to the Annex A.2 section [A.2.1 through A.2.4].

Features Tested	The additional CIM queryables are supported
CIM profile ATS References	A.2.x, with x=1 through 4
ETS References	ctl:test name="ebrimcim:execute-A.2.x", with x=1 through 4 where A.2.x is the corresponding abstract test case [there is a correspondence 1:1 between abstract test cases and test procedures of the CTL suite]

4.2.3. Test Case TC_02_03: The additional resources

This test case groups all of the CSW-ebRIM CIM Abstract Test Case belonging to the Annex A.3 section [A.3.1 through A.3.5].

Features Tested	The additional CIM information resources are supported
CIM profile ATS References	A.3.x, with x=1 through 5
ETS References	ctl:test name="ebrimcim:execute-A.3.x", with x=1 through 5 where A.3.x is the corresponding abstract test case [there is a correspondence 1:1 between abstract test cases and test procedures of the CTL suite]

4.3. Test Design TD_03: Performance

This test design addresses performance issues of the ERGO GeoNetwork Catalogue Service implementation.

The ETS for this test design is a simple test suite calling the procedures corresponding to the test cases listed below, except for the first test case, which is executed with an "ad hoc" shell script.

4.3.1. Test Case TC_03_01: Ingestion of 20.000 records in DB

This test case checks that the ERGO GeoNetwork Catalogue Service is able to store at least 20.000 records.

Identifier	"urn:ergo:atp:GCT:tc_03_01:ingestion"
Test purpose	The IUT shall be able to ingest 20.000 records in the registry
Test method	Due to the large number of records to be harvested, the ingestion is carried out using a procedure implemented ad hoc. The Test is considered passed if the procedure [a shell script] is successfully carried out; fail otherwise
References	ERG-SR-GNW-DES-190
ETS References	None [test executed through a shell script]

Note: details about the structure of the procedure in charge of populating the GeoNetwork database will be provided in the next version of this document.

4.3.2. Test Case TC_03_02: Number of records returned by GetRecords

This test case checks that the ERGO GeoNetwork Catalogue Service is able to return 20 records to a search request

Identifier	"urn:ergo:atp:GCT:tc_03_02:number_of_records"
------------	---

<p>Test purpose</p>	<p>The IUT shall be able to return 20 records to a CSW-ebRIM "GetRecords" request; the "GetRecords" request has the following parameters:</p> <ul style="list-style-type: none"> the GetRecords attribute "resultType" is set to "results"; the GetRecords attribute "maxRecords" is set to 20; the "ElementSetName" element value is set to any of the "brief", "summary" or "full" value the only filter criterion is about the property "parentIdentifier" set to the <i>collection</i> whose product metadata files have been harvested in the registry. <p>Precondition:</p> <p>At least twenty ISO 19139 compliant Metadata belonging to the same <i>collection</i> has been successfully harvested in the registry</p>
<p>Test method</p>	<p>Verify that the "GetRecordsResponse" contains the expected number of records. Passed if the predicate applies, fail otherwise</p>
<p>References</p>	<p>ERG-SR-GNW-DES-190</p>
<p>ETS References</p>	<p>ctl:test name="ebrimcim:tc_03_02"</p>

4.3.3. Test Case TC_03_03: Maximum response time for GetRecords

This test case checks that the ERGO GeoNetwork Catalogue Service is able to return a GetRecordsResponse in less than 3 seconds

<p>Identifier</p>	<p>"urn:ergo:atp:GCT:tc_03_03:getrecords_time"</p>
--------------------------	--

Test purpose	<p>The IUT shall be able to return a "GetRecordsResponse" within 10 seconds since the arrival of the corresponding "GetRecords". The "GetRecords" has the following parameters:</p> <ul style="list-style-type: none">the "GetRecords" attribute "resultType" is set to "results";the "GetRecords" attribute "maxRecords" is set to 20;the "ElementSetName" element value is set to the "full" value;a filter criterion about the "parentIdentifier" property set to collection is specified. <p>Precondition:</p> <p>At least 20 ISO 19139 compliant Metadata belonging to the same collection</p>
Test method	Verify that the response is returned in the specified slot of time; passed if the predicate applies, fail otherwise
References	ERG-SR-GNW-PER-060
ETS References	ctl:test name="ebrimcim:tc_03_03"

4.4. Test Design TD_04: Security

This test design refers to user authorization; it is assumed that ERGO GeoNetwork supports the SAML Profile and thus relies on the authentication services of an external Identity Provider (according to [NR12], §10.2). The following scenario (compliant with the "Authenticated SOAP Requestor" scenario described in [NR12], §11.6.5) is envisaged:

- The Identity Provider (IdP) gives the user a SAML authentication token to be used for accessing the ERGO GeoNetwork services;
- The SAML authentication token contains the user profile information needed to ERGO GeoNetwork to check whether the user is authorized to access the service;

- The SAML authentication token is inserted in the SOAP header of the user request message, embedded in WS-Security tags.

4.4.1. Test Case TC_04_01: Unauthorized access

This test case checks that an unauthorized user cannot perform the required operation

Identifier	"urn:ergo:atp:GCT:tc_04_01:unauthorized_access"
Test purpose	<p>A not authorized user cannot execute an IUT operation; the request issued by the user shall contain:</p> <ul style="list-style-type: none"> • the SAML token released by the external IdP, in the SOAP header • a "GetRecords" request, in the SOAP Body <p>whereas the SAML token correctly authenticate the user.</p>
Test method	Verify that the response contains an "Authentication failure"; passed if the predicate applies, fail otherwise
References	ERG-RB-GNW-SEC-200
ETS References	ctl:test name="ebrimcim:tc_04_01"

5. Traceability matrices

The following matrix associated the ERGO GeoNetwork requirements to the ATP Test Cases which check their correct implementation.

Requirement	Test case
ERG-SR-GNW-FUN-010	TC_01_03 and TC_01_05
ERG-SR-GNW-FUN-020	The support for free text queries will be specified in the next issue of the current document. The OGC "Filter" element is currently used to express queries on the Catalogue
ERG-SR-GNW-FUN-021	TC_01_05 [ref. ATC 29]
ERG-SR-GNW-FUN-022	TC_01_05 [ref. ATC 56]. Temporal queries are expressed through usage of comparison operators on properties of date/datetime xml type (format ISO 8601)
ERG-SR-GNW-FUN-023	TC_01_05 [ref. ATC 57]
ERG-SR-GNW-FUN-024	TC_01_05 [ref. ATC 55]
ERG-SR-GNW-FUN-025	TC_02_01 [ref. A.1.7: the CIM Extension Package availability is checked through execution of a stored query]
ERG-SR-GNW-FUN-030	TC_01_05 [ref. ATC 29]
ERG-SR-GNW-FUN-040	Demonstration
ERG-SR-GNW-FUN-050	Test cases of Test Design TD_01 [the responses are checked against the applicable schemas]
ERG-SR-GNW-PER-060	TC_03_03



ERG-SR-GNW-INT-070	<ul style="list-style-type: none"> • Test cases of Test Design TD_01 • Test cases of Test Design TD_02
ERG-SR-GNW-INT-080	Test cases of Test Design TD_01 and TD_02
ERG-SR-GNW-INT-090	N/A
ERG-SR-GNW-INT-100	Test cases of Test Design TD_01
ERG-SR-GNW-INT-110	Test cases of Test Design TD_01
ERG-SR-GNW-OPE-120	Demonstration
ERG-SR-GNW-OPE-130	Demonstration
ERG-SR-GNW-OPE-140	Demonstration
ERG-SR-GNW-OPE-150	Regression tests on the GUI
ERG-SR-GNW-OPE-160	TC_01_05
ERG-SR-GNW-OPE-170	TC_01_02
ERG-SR-GNW-DES-180	Inspection
ERG-SR-GNW-DES-190	TC_03_01 and TC_03_02
ERG-RB-GNW-SEC-200	TC_04_01
ERG-SR-GNW-QLT-210	Demonstration
ERG-SR-GNW-QLT-220	Inspection
ERG-SR-GNW-QLT-230	Inspection



ERG-SR-GNW-MAI-240	Inspection
ERG-SR-GNW-SCD-250	Inspection
ERG-SR-GNW-SCD-260	Inspection ¹
ERG-SR-GNW-SCD-270	Inspection ¹
ERG-SR-GNW-SCD-280	Demonstration
ERG-SR-GNW-SCD-290	Inspection
ERG-SR-GNW-SCD-300	Inspection
ERG-SR-GNW-SCD-310	Inspection
ERG-SR-GNW-SCD-320	Inspection
ERG-SR-GNW-VAL-330	Demonstration

¹ The SRD [NR2] would require a test case; however, it seems more appropriate a verification by inspection

ERG-GEON-4100-INT :*Document Id*

1-30/04/2009 : *Issue*

1-10/06/2009 : *Revision*



6. ANNEX A: ETS

TO BE PROVIDED